What is claimed is:

1. A method for training a subject for control processes in a task, comprising:

decomposing the task into a plurality of cognitive skills related to the control processes ;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require complete physical fidelity to the task.

2. The method of claim 1, wherein said trainer uses at least one physical action being different from an actual physical action performed by the subject when performing the task.

3. The method of claims 1 or 2, wherein said decomposing the task into said plurality of cognitive skills further comprises:

decomposing the task into a plurality of actions; and

mapping said plurality of actions to said plurality of cognitive skills.

4. The method of claim 3, wherein said mapping is performed at least semi-automatically.

5. The method of claims 3 or 4, wherein said mapping further comprises:

analyzing said plurality of actions to determine a plurality of cognitive actions, wherein said cognitive actions are mapped to said plurality of cognitive skills.

6. The method of any of claims 1-5, wherein said determining said training strategy comprises:

associating each cognitive skill with at least one action to be performed by the subject.

7. The method of claim 6, wherein said action in said training strategy further comprises a physical action and a cognitive action, wherein said physical action does not require complete physical fidelity to the task.

8. The method of claims 6 or 7, wherein said determining said training strategy further comprises:

coordinating a plurality of actions associated with said cognitive skills.

9. The method of claim 8, wherein said determining said training strategy further comprises:

iteratively adjusting said plurality of actions for said training strategy for said coordinating.

10. The method of claim 9, wherein said iteratively adjusting said plurality of actions is performed according to at least one heuristic parameter.

11. The method of any of claims 6-10, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training each cognitive skill.

12. The method of any of claims 6-11, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training a plurality of cognitive skills in combination.

13. The method of any of claims 1-12, wherein said determining said training strategy comprises determining at least one action to be performed by the subject and wherein said constructing said trainer comprises:

selecting at least one input device and at least one output device for operation by the subject according to said at least one action to be performed by the subject.

14. The method of any of claims 1-13, wherein said decomposing the task further comprises:

determining a plurality of basic skills related to the task; and

combining these basic skills into a profile for training the subject.

15. A method for training a subject for control processes in a task, comprising:

designing a cognitive simulator for training the subject in the task;

constructing a trainer for training the subject according to said cognitive simulator; and

determining a training plan for training the subject with said trainer.

16. The method of claim 15, wherein said determining said training plan comprises:

providing a plurality of cognitive building components; and

composing said training plan from said plurality of cognitive building components.

17. The method of claim 15, further comprising:

decomposing the task into a plurality of cognitive skills for control processes before said designing said cognitive simulator, such that said designing is performed according to said plurality of cognitive skills.

18. The method of claim 17, wherein said decomposing the task into said plurality of cognitive skills further comprises:

decomposing the task into a plurality of actions; and

mapping said plurality of actions to said plurality of cognitive skills.

19. The method of claim 18, wherein said mapping is performed at least semi-automatically.

20. The method of claims 18 or 19, wherein said mapping further comprises:

analyzing said plurality of actions to determine a plurality of cognitive actions, wherein said cognitive actions are mapped to said plurality of cognitive skills.

21. The method of claim 20, wherein said action further comprises a physical action and a cognitive action, wherein said physical action does not require complete physical fidelity to the task.

22. The method of any of claims 15-21, wherein said trainer uses at least one physical action being different from an actual physical action performed by the subject when performing the task.

23. The method of any of claims 15-22, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training each cognitive skill.

24. The method of any of claims 15-23, wherein said determining said training strategy further comprises:

determining a sequence of actions to be performed by the subject for training a plurality of cognitive skills in combination.

25. The method of any of claims 15-24, wherein said determining said training plan further comprises associating at least one parameter for operation of said trainer by the subject with at least one task-related skill or situation.

26. The method of claim 25, wherein said determining said training plan further comprises assigning a weight to said at least one parameter.

27. The method of claims 25 or 26, wherein said determining said training plan further comprises mapping said at least one parameter to an interaction of the subject with said trainer.

28. The method of any of claims 15-27, wherein said constructing said trainer comprises:

selecting at least one input device and at least one output device for operation by the subject according to said cognitive simulator.

29. The method of claim 28, further comprising:

calibrating an operation of said trainer during interactions with the subject.

30. The method of claim 29, wherein said calibrating further comprises:

adjusting at least one parameter for operation of said trainer by the subject according to an interaction of the subject with said trainer.

31. The method of any of claims 15-30, wherein said designing said cognitive simulator comprises:

determining a training strategy.

32. The method of claim 31, wherein said determining said training strategy comprises:

associating each cognitive skill with at least one action to be performed by the subject.

33. The method of claim 32, wherein said action in said training strategy further comprises a physical action and a cognitive action, wherein said physical action does not require complete physical fidelity to the task.

34. The method of claims 32 or 33, wherein said determining said training strategy further comprises:

coordinating a plurality of actions associated with said cognitive skills.

35. The method of claim 34, wherein said determining said training strategy further comprises:

iteratively adjusting said plurality of actions for said training strategy for said coordinating.

36. The method of any of claims 15-35, wherein said designing said cognitive simulator comprises:

modeling the task to form a model; and

designing said cognitive simulator according to said model.

37. The method of claim 36, wherein said coordinating said plurality of actions is performed at least partially according to said modeling.

38. A system for training a subject for control processes in a task, comprising:

(a) a hardware device for interacting with the subject;

(b) a plurality of instructions for controlling operation of said hardware device;

(c) an analyzer for analyzing interactions of the subject with said hardware device and for adjusting said operation of said hardware device according to said plurality of instructions, according to said interactions of the subject, thereby training the subject in the task.

39. The system of claim 38, wherein said hardware device comprises at least one input device and at least one output device.

40. The system of claim 39, wherein said at least one input device and said at least one output device are combined in a single device.

41. The system of claims 39 or 40, wherein said input device comprises at least one of a joystick, a keyboard, a touchpad, a touchscreen and a pointer device.

42. The system of any of claims 39-41, wherein said output device comprises at least one of a screen, a touchscreen, an audio device and a touch sensory device.

43. The system of claim 42, wherein said audio device comprises a set of headphones.

44. The system of claim 42, wherein said audio device comprises at least a loudspeaker.

45. The system of any of claims 39-44, wherein operation of said hardware device by the subject does not require complete physical fidelity to the task.

46. The system of any of claims 39-45, wherein said plurality of instructions is determined according to a training strategy for training the subject.

47. The system of claim 46, wherein said training strategy is determined according to at least one action to be performed by the subject for the task.

48. The system of claim 47, wherein said action in said training strategy further comprises a physical action and a cognitive action, wherein said physical action does not require complete physical fidelity to the task.

49. The system of any of claims 46-48, wherein said training strategy further comprises a sequence of actions to be performed by the subject for training in attention control

50. A system for training a subject in at least one control process associated with a task, comprising:

(a) at least one input device and at least one output device for interacting with the subject, wherein operation of said at least one input device and said at least one output device does not require complete physical fidelity to the task;

(b) a training module for controlling said at least one input device and said at least one output device for training said at least one cognitive skill; and

(c) an analyzer for analyzing interactions of the subject with said at least one input device and said at least one output device and for adjusting said operation of said at least one input device and said at least one output device according to said interactions of the subject, thereby training the subject in the at least one cognitive skill.

51. The system of claim 50, wherein said training module comprises a database for recording performance records of the subject.

52. The system of claim 50, wherein said input device is controlled automatically by said training module.

53. The system of claim 50, wherein said analysis of interactions of the subject is monitorable in real-time.

54. The system of claim 53, wherein said analysis of interactions of the subject is monitorable off-line via delayed feedback.

55. The system of claim 53, wherein said input device is manually controllable by an operator.

56. The system of claim 50, further comprising a physical monitoring device.

57. The system of claim 56, wherein said physical monitoring device is at least for monitoring a physical parameter selected from blood pressure, heart rate, and skin humidity.

58. The system of claim 56, wherein said physical monitoring device provides feedback to said training module for operation of said at least one input device and said at least one output device.

59. The system of claim 50, wherein said at least one input device and said at least one output device are combined in a single device.

60. The system of any of claims 50-59, wherein said input device comprises at least one of a joystick, a keyboard, a touchpad, a touchscreen and a pointer device.

61. The system of any of claims 50-60, wherein said output device comprises at least one of a screen, a touchscreen, an audio device and a touch sensory device.

62. The system of any of claims 50-61, wherein said training module operates according to a training strategy for training the subject, wherein said training strategy is determined at least according to the at least one cognitive skill.

63. The system of claim 62, wherein said analyzer analyzes said interactions of the subject with said at least one input device and said at least one output device according to a plurality of parameters, said parameters being determined according to the at least one cognitive skill.

64. The system of claim 63, wherein said plurality of parameters is also determined according to said training strategy.

65. A method for training a subject in a plurality of cognitive skills for a task, comprising:

mapping a plurality of actions associated with the task into the plurality of cognitive skills;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require physical fidelity to the task.

66. The method of claim 65, further comprising decomposing said task into said plurality of cognitive skills before said mapping is performed.

67. The method of claim 66, wherein said decomposing the task further comprises:

determining a plurality of basic skills related to the task; and

combining these basic skills into a profile for training the subject.

68. The method of any of claims 65-67, wherein the cognitive skills are associated with control processes.

69. The method of any of claims 65-68, wherein the task comprises a sport-related activity.

70. The method of claim 69, wherein said sport-related activity comprises an object-handling activity.

71. The method of claim 70, wherein said object-handling activity comprises a ball-handling activity.

72. The method of any of claims 69-71, wherein said sport-related activity comprises an activity of at least one of basketball, baseball, soccer, American football, ice hockey, field hockey, rugby, lacrosse, cricket, golf, tennis, table tennis, volleyball, car racing, motorcycle racing, bicycle racing, polo, boxing, skiing, snowboarding, fencing, windsurfing, sailing, kite surfing, and hang gliding.

73. The method of any of claims 69-72, wherein said sport-related activity comprises a martial art activity of at least one of wrestling, judo, karate, sumo, jujitsu, kick boxing , aikido, taekwondo, and kung-fu.

74. The method of any of claims 69-73, wherein said sport-related activity comprises an activity performed by a plurality of subjects collectively in a team, and wherein at least one cognitive skill is related to performance by a subject as part of said team.

75. A trainer for training a subject in a plurality of cognitive skills related to control processes for a task, comprising:

at least one input device and at least one output device for interacting with the subject; and

a control module for controlling interactions of said at least one input device and said at least one output device with the subject, wherein said control module is designed to simulate cognitive actions related to the plurality of cognitive skills for training the subject.

76. A method for training a subject in a control process for a task, comprising:

mapping a plurality of cognitive skills into the control process;

mapping a plurality of actions associated with the task into the plurality of cognitive skills;

determining a training strategy according to said plurality of cognitive skills; and

constructing a trainer for training the subject according to said training strategy, wherein operation of said trainer does not require physical fidelity to the task.

77. The method of claim 76, wherein said mapping of plurality of cognitive skills further comprises:

determining a plurality of basic skills related to the task; and

combining these basic skills into a profile for training the subject.

78. The method of any of claims 76-77, wherein the cognitive skills are associated with control processes.

79. The method of any of claims 76-78, wherein the task comprises a sport-related activity.

80. The method of claim 79, wherein said sport-related activity comprises an object-handling activity.

81. The method of claim 80, wherein said object-handling activity comprises a ball-handling activity.

82. The method of any of claims 79-81, wherein said sport-related activity comprises an activity of at least one of basketball, baseball, soccer, American football,

ice hockey, field hockey, rugby, lacrosse, cricket, golf, tennis, table tennis, volleyball, car racing, motorcycle racing, bicycle racing, polo, boxing, skiing, snowboarding, fencing, windsurfing, sailing, kite surfing, hang gliding.

83. The method of any of claims 79-82, wherein said sport-related activity comprises an activity performed by a plurality of subjects collectively in a team, and wherein at least one cognitive skill is related to performance by a subject as part of said team.